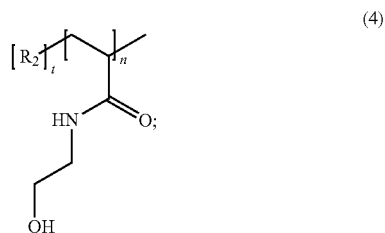
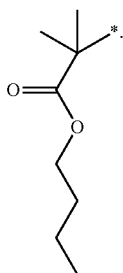


15. The method of claim 1, wherein the polymer has the structure of formula (4):



wherein t is an integer of 50 to 90, n is an integer of 10 to 50, and R_2 is



16. The method of claim 1, wherein the polymer is a segmented polymer.

17. The method of claim 1, wherein the polymer is disposed on the substrate by coating, spraying, or impregnating.

18. The method of claim 17, wherein the substrate is polypropylene, polyethylene terephthalate cellulose, polybutylene terephthalate.

19. The method of claim 18, wherein surface elements of the modified substrate comprise carbon, oxygen, and nitrogen; the total mole percentage of carbon, oxygen, and nitrogen is defined as 100%, the mole percentage of carbon is about 76.22% to 79.84%, the mole percentage of oxygen is about 18.1% to 21.04%, and the mole percentage of nitrogen is about 2.05% to 2.75%.

20. The method of claim 19, wherein the method is used for pathogenic examination of biological samples.

21. The method of claim 20, wherein the biological sample is selected from the group consisting of blood, cerebral spinal fluid, cells, a cellular extract, a tissue sample, and a tissue biopsy.

22. The method of claim 21, wherein the examination of pathogen in biological sample comprises diagnosing sepsis in the individual.

23. The method of claim 19, wherein the filtrate is subjected to DNA purification, and is analyzed by PCR, qPCR, digital PCR, NGS, MassSpec, or Nanopore sequencing.

24. The method of claim 23, wherein the filtrate is subjected to DNA purification, a sequencing library is constructed by Oxford Nanopore rapid library construction process, and it is sequenced with Oxford Nanopore GridION sequencer.

25. A device used in the method of claim 1, comprising: upper housing, filter, and lower housing; wherein the filter is located between the upper housing and lower housing, and is made from the polymer-modified substrate according to claim 1.

26. The device of claim 25, wherein the upper housing of the device is provided with an inlet while the lower housing is provided with an outlet; the biological sample enters the device from the inlet of the upper housing, penetrates through the filter, and flows out from the device through the outlet of the lower housing.

27. The device of claim 26, wherein the device is used for pathogenic examination of biological samples.

* * * * *